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EXAMINER

PERUNGAVOOR, SATHYANARAYA V

ART UNIT PAPER NUMBER

2625

DATE MAILED: 01/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/891,512	<b>Applicant(s)</b> DRESEVIC ET AL.	
	<b>Examiner</b> Sath Perungavoor	<b>Art Unit</b> 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06/27/2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/22/04, 12/30/03, 7/15/04, 8/14/04</u> | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Specification***

1. 35 U.S.C. 112, first paragraph, requires the specification to be written in "full, clear, concise, and exact terms." The specification is replete with terms which are not clear, concise and exact. The specification should be revised carefully in order to comply with 35 U.S.C. 112, first paragraph. Examples of some unclear, inexact or verbose terms used in the specification are:

Specification references to some drawing identifiers are incongruous, for example, "index 808" (75 on Page 20). Similar errors are present in other areas of the specification.

2. The disclosure is objected to because of the following informalities:

Application numbers for referenced applications must be entered.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 1-26 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 1 recites the functional descriptive matter (data structure).

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Similarly claims 2-10 are rejected as being dependent on claim 1.

Claim 11 recites the functional descriptive matter (data structure).

Similarly claims 12-16 are rejected as being dependent on claim 11.

Claim 17 recites the functional descriptive matter (data structure).

Similarly claim 18 is rejected as being dependent on claim 17.

Claim 19 recites the functional descriptive matter (data structure).

Similarly claims 20-21 are rejected as being dependent on claim 19.

Claim 22 recites the functional descriptive matter (data structure).

Similarly claims 23-26 are rejected as being dependent on claim 22.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 19-21 are rejected under 35 U.S.C. 102 (b) as being anticipated by Capps et al. (US 5,465,325).

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Regarding claim 19, Capps et al. disclose a system for creating a data structure comprising (Fig. 1):

an input receiving ink stroke information in native coordinates from a native coordinate system (Col. 6 Lines 12-14);

a processor determining a transform between the native coordinate system and a virtual coordinate system (Col. 12 Line 65; Col. 3 Lines 60-63; S calculation is performed by the processor.); and

a storage for storing a data structure containing the ink stroke and the transform (Col. 3 Lines 60-63).

Regarding claim 20, Capps et al. disclose the system according to claim 19, wherein the data structure contains multiple ink strokes that are associated with the transform (Col. 11 Lines 27-29).

Regarding claim 21, Capps et al. disclose the system according to claim 20, wherein the association between the ink strokes and the transform is an index referencing a transform table (Col. 13 Lines 1-4; It can be seen that RAWARRAY is an indexed array and would be inherent to use an indexed transform table to eliminate the need for conversion to a matrix form.)

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-5, 8-14, 17, 18 and 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen, Jr. et al. (US 5,534,893) in view of Capps et al. (US 5,465,325).

Regarding claim 1, Hansen, Jr. et al. disclose a computer readable medium having a data structure stored thereon, said data structure for use with ink, said data structure comprising (16 on Fig. 1; Col. 8 Lines 4-8):

a first portion storing data (Col. 8 Lines 15-18); and

However, Hansen, Jr. et al. do not expressly disclose a second portion storing a mapping of the data to a virtual space.

Capps et al. disclose a portion storing a mapping of the data to a virtual space (Col. 12 Line 65; Disclosed transform maps the data to a virtual space.).

It would have been obvious to one with ordinary skill in the art at the time of invention to modify the teaching of Hansen, Jr. et al. with Capps et al. to further meet the claim limitations. Since, mapping is commonly known and used in both references. Also, it would be inherent to use mapping because a computer (virtual space) performs the processing of ink strokes.

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Regarding claim 2, Hansen, Jr. et al. disclose the computer readable medium according to claim 1, wherein the first and second portions are part of an ink object (Col. 8 Lines 4-8 and 15-18).

Regarding claim 3, Hansen, Jr. et al. disclose the computer readable medium according to claim 1, wherein the data include coordinate information for an ink stroke (Col. 8 Lines 15-18; Col. 7 Lines 19-21).

Regarding claim 4, Hansen, Jr. et al. disclose the computer readable medium according to claim 1, wherein the data include coordinate information for multiple ink strokes (Fig. 11 e; Col. 13 Lines 42-43).

Regarding claim 5, Capps et al. disclose the computer readable medium according to claim 1, wherein the mapping is a set of equations (Col. 12 Line 61; M disclosed is developed from matrices A, B and C, which can be translated to set of equations.).

Regarding claim 8, Capps et al. disclose the computer readable medium according to claim 1, wherein the mapping is a set of coefficients (Col. 12 Line 22;  $S_x$  and  $S_y$  are coefficients.).

Regarding claim 9, Hansen, Jr. et al. disclose the computer readable medium according to claim 1, wherein the portion is part of an ink stroke and a

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portion is part of a property table containing properties for the ink stroke (Col. 7 Lines 1-8; Col. 8 Lines 4-8, 15-18 and 41-49; Disclosed property may be implemented as a table, since all data is in memory in indexed.).

Regarding claim 10, all limitations are set forth and rejected as per discussion for claims 1 and 7. Since, there can be any number of mappings and one could do a secondary map. Multiple mappings can be easily done, since it could be a mere duplication of first mapping with trivial modification. Data structure has not limits in terms of the portions used and is only limited by available system memory.

Regarding claim 11, Hansen, Jr. et al. discloses a method for creating a data structure, said method comprising the steps of (Col. 8 Lines 4-8):

receiving a first ink stroke (Col. 8 Lines 4-8);

creating the data structure that associates the first ink stroke with a mapping (Col. 8 Lines 15-18).

However, Hansen, Jr. et al. do not expressly disclose determining a mapping of coordinates associated with the first ink stroke to a virtual space.

Capps et al. disclose determining a mapping of coordinates associated with the first ink stroke to a virtual space (Col. 12 Line 65; Disclosed transform maps the data to a virtual space.).

It would have been obvious to one with ordinary skill in the art at the time of invention to modify the teaching of Hansen, Jr. et al. with Capps et al. to



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further meet the claim limitations. Since, mapping is commonly known and used in both references. Also, it would be inherent to use mapping because a computer (virtual space) performs the processing of ink strokes.

Regarding claim 12, Hansen, Jr. et al. disclose the method according to claim 11, further comprising the step of: after receiving the ink stroke, creating an empty ink object (Col. 8 Lines 4-8).

Regarding claim 13, Capps et al. disclose the method according to claim 11, further comprising the step of:

after determining the mapping, adding at least one additional ink stroke, the additional ink stroke sharing the mapping associated with the first ink stroke (Col. 11 Lines 27-29).

Regarding claim 14, Capps et al. disclose the method according to claim 11, wherein the determining a mapping step further comprises the steps of:

determining a native coordinate system (Col. 12 Line 65; RAWARRAY is the native coordinate system.);

determining a virtual coordinate system (Col. 12 Line 65; S is the virtual coordinate system.); and,

determining coefficients to transform from the native coordinate system to the virtual coordinate system (Col. 12 Line 65; M is the coefficients.).

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Regarding claim 17, all limitations are set forth and rejected as per discussion for claim 11. Disclosed transform may be implemented as a table, since all data in memory is indexed.

Regarding claim 18, all limitations are set forth and rejected as per discussion for claim 17 and 16.

Regarding claim 22, Capps et al. disclose an output for outputting the transformed ink stroke (20 on Fig. 1).

All remaining limitations are set forth and rejected as per discussion for claim 11 and 19.

Regarding claim 23, Capps et al. disclose the system according to claim 22, wherein the output includes at least one of a printer and a display (18 and 20 on Fig. 1; Printer is a commonly know output system and is used commonly in imaging.).

Regarding claim 24, all limitations are set forth and rejected as per discussion for claim 22 and 8.

Regarding claim 25, all limitations are set forth and rejected as per discussion for claim 22 and 16.

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Regarding claim 26, Hansen, Jr. et al. disclose the system according to claim 22, further comprising a handwriting recognition module that attempts to recognize the ink stroke in its original coordinates (Col. 7 Lines 28-31).

6. Claims 6, 7, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen, Jr. et al. in view of Capps et al. as applied to claim 1 above, and further in view of Baxes (NPL document, see PTO-892).

Regarding claim 6, Hansen, Jr. et al. and Capps et al. meet the claim limitations as set forth in the discussion for claim 1.

However, neither Hansen, Jr. et al. nor Capps et al. disclose the mapping with the set of equations of the form

$$x' = Ax + By + C$$

$$y' = Dx + Ey + F$$

where (x,y) is a coordinate of the data and (x',y') is a coordinate of the virtual space.

Baxes discloses the mapping with the set of equations of the form

$$x' = Ax + By + C$$

$$y' = Dx + Ey + F$$

where (x,y) is a coordinate of the data and (x',y') is a coordinate of the virtual space (Page 116).

It would have been obvious to one with ordinary skill in the art at the time of invention to modify the teachings of Hansen, Jr. et al. and Capps et al. with

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Baxes to further meet the claim limitations. Since, any mapping can be used to perform the transformation, one would use geometric transformation.

Regarding claim 7, all limitations are set forth and rejected as per discussion in claim 6. The disclosed two mapping is achieved with Baxes because the given equations are linear. Linear equations can have infinite mappings and their net effect can be reduced to one mapping. Similarly, one mapping can be separated to multiple mappings. This is a fundamental property of linearity.

Regarding claim 15, all limitations are set forth and rejected as per discussion for claims 11 and 6.

Regarding claim 16, all limitations are set forth and rejected as per discussion for claims 11 and 7.

#### ***Other Prior Art Cited***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Martin et al. (US 5,148,155) disclose the development of ink objects.

Beernink et al. (US 5,680,480) disclose the development of ink objects.

Nowlan et al. (US 5,920,647) disclose the development of ink objects.

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**Contact Information**

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sath Perungavoor whose telephone number is (703) 306-4116. The examiner can normally be reached on Monday to Friday from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta whose telephone number is (703) 308-5246, can be reached on Monday to Friday from 9:00am to 5:00pm. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sath Perungavoor  
Art Unit 2625  
December 29, 2004

  
**KANJIBHAI PATEL**  
**PRIMARY EXAMINER**